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A momentous Education
Question for the Con-
sideration of Parents
and Others who desire
the Well-being of the
Rising Generation.

BY

P. A. SILJESTRÖM,

LATE MEMBER OF THE SWEDISH PARLIAMENT.

Translated from the Swedish

BY

J. J. GARTH WILKINSON.

WILLIAM YOUNG, 114, VICTORIA STREET, WESTMINSTER, S.W.

1883.

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Prefatory Notice.

REKTOR P. A. SILJESTRÖM is the highest living Authority on the subject of Swedish Education. His Work *On the Educational Institutions of America*, translated into English by FREDERICA ROWAN in 1853, was the turning point in the Swedish System, and covered Sweden with Schools which are the admiration of other countries. His voice therefore is a weighty one on any public question to which he seriously addresses himself; and though not medical, yet in this respect it is on a level with the voices of our Houses of Parliament. He is not an expert, but a Judge over experts. Since his first great Work, he published in 1877 a second Treatise, which has not been translated. *Om Utsigterna och Hindren för en högre Folkbildning*, *The Better Education of the People: the prospects of its attainment, and hindrances to the same*. This work also touches upon physical education; and at the outset points "attention to the

lamentable fact, that owing to physical weakness or bodily defect, nearly one fourth of the youth of Sweden, at the age of twenty-one, is incapacitated from taking part in the defence of the Kingdom." The Reader will find that this observation enters into the subject of the present Tract. To a Patriotic Statesman like SILJESTRÖM, born in a land whose doughty Soldiers live in the Renown of History, the fact he here cites may well come home in grief of heart. GUSTAVUS ADOLPHUS, or CHARLES THE XIIth, heedless of experts, would have made short work of any process to which such a result could even probably be traced.

The Translation of our Tract has been approved by the Author, who has made some additions to the Swedish Text.

A list of certain of his other works bearing on the subject of this Tract will be found on pages 16 and 17.

The scientific reader may be interested to know that REKTOR SILJESTRÖM was recommended by the great Swedish Chemist, BERZELIUS, as an Adjunct to the Commission in Lapland sent out by the French Government

to make Meteorological Observations. Of that expedition he has published an interesting memoir, in Swedish, and also a Scientific Report inserted in the large French Work, *Voyages en Scandinavie, en Laponie, en Spitzberg, et en Feröe*. Later on he was sent by his own Government to examine and report upon the nature and organization of the Educational System of the United States.

SILJESTRÖM is a happy blending of the tender hearted with the hard headed Philanthropist. No man in Sweden has a better renown as a Sanitarian in the interest of little children and young persons. He has pleaded their cause efficiently in many ways, as he pleads it in the following pages. He has written *On School Houses and School Fixtures: On the Principles of School Architecture:* and a *Report on the Common Schools of Stockholm*, which was followed by a total re-organization of those Schools. He has also published *Thoughts on Education, On the Education of the Eye,* and *Statistical and Critical Observations on the School System of Sweden*. Moreover, several Text Books for Primary and Elementary Schools.

He loves his country well, who wisely loves the children of his country.

The Translator ventures one remark special here to REKTOR SILJESTRÖM's truly Momentous Question.

The more exacting Education becomes, and the more legitimately and completely it taxes, without overstraining, the mental capacities of children and young people, the more vital it is that the physical body, which is the ground and instrument of the mind, shall be constitutionally unblemished and undiseased. Any seed of decay planted in a child's body at this day, is deadlier than the same seed would have been in former times, and makes the fruits of education more prone to rot, and more impossible to ripen. And this, in an ever increasing ratio as public Education advances.

Oct. 12, 1882. [Second Edition, March 2, 1883.]

THIS SECOND EDITION of the present Tract has the advantage of some additions by the Author. And at the end of it will be found his remarks on THE PERIODICITY OF SMALL-POX, mentioned on p. 17.

A momentous Education Question for the Consideration of Parents and Others who desire the Well- being of the Rising Generation.

IT has seemed to the Author of the following pages, that it will not be without advantage if he imparts to the general public some points of information concerning a question of education, which, in his opinion, is perhaps the most momentous of all those that now stand on the order of the day. This question of late, and in particular for the last few years, has been eagerly discussed in the principal centres of civilization; though here, in Sweden, it has not occupied much attention. Before we proceed, we may be permitted to make a general Observation by way of premiss.

However modest the demands one may make at present upon education, there appears to be *one* demand at least which stands within moderation. This, namely, that the actual faults

of the education,—and faults there always will be,—shall not be of such a nature that it is *impossible* to remedy them in after life; in other words, they must not entail upon their subject any mischief *beyond all help*. To put more closely home what we mean, let us assume, as an example, that a child in school does not succeed in gaining the *knowledge*, the instructions, that from one point of view or another may be regarded as the most useful for him. This, however, constitutes in general no bar, at least no absolute bar, to his setting to work for himself, either in school, or after school, and thus compensating himself for what has been neglected in the schooling. So, likewise, in regard to the education directed to the formation of his *character*, if this has not been all that could be desired, still it is generally not impossible at a later period to correct the wrong bias given in childhood; although indeed the difficulties here may be greater than in the former instance. But in regard to both intellectual and moral culture, the mistakes in the education must at any rate be repeated for a more or less considerable space of time, before they can conduct to irremediable results. The same remarks apply to *physical education*. Here also a considerable period of neglect is required before the health of the body is irretrievably

undermined. And the Author hopes he will not be regarded as too materialistic, if in the present case he lays a special emphasis upon the physical side of education. Matters must indeed have gone to a serious pass, if the flaws in either an intellectual or a moral education cannot be cleared away, and cleared away completely. But undermined health, and a ruined constitution, are, for the whole of life, a bar to a man's career,—a clog on his power of action,—and most frequently bring with them, even to the spiritual part of the man, consequences which are incalculable. If he has a debilitated or ruined body to drag about for life—if his vessel so to speak has once struck upon a rock, and threatens to become waterlogged, then his sailing for the remainder of his days must spend itself more and more in pumping out the sea. In the whole scope of education, what can be more vitally important than to keep quite clear of all such mischances?

Now it is an interference in the matter of physical education—an interference which is regarded by many earnest minds as being actually, or possibly, ruinous to this extent, that the Author is here about to bring forward. The act itself is, indeed, only the work of a moment; but nevertheless, in the judgment of many, it may entail *for life* the most disastrous

consequences. In fact, the doubts and misgivings to which the investigations of these last years have given birth upon the subject we are about to introduce, are of so serious a nature, that no father or mother who loves a child, and conscientiously acknowledges a parent's duty as its guardian, can possibly escape the responsibility of forming a judgment on the case in question. Furthermore, it is a duty that no Government in any country can shirk, to submit the whole matter to the most crucial investigation. It is with a view to these duties that the Author has felt himself called upon to publish the following brief remarks, which may, in some degree, prepare the way for those who are desirous of forming a more particular acquaintance with the question. That question is,—Concerning *Vaccination?*

The great majority of persons probably assign no importance whatever to the operation of Vaccination. It is regarded for the most part as a mere ceremony—a kind of charm, and little more—a something that ought to be gone through. The vaccination certificate is simply an indispensable official paper that is wanted, together with the clergyman's certificate, as a pass-word on various occasions in life. Once fairly equipped with this certificate, its possessor feels that he has done the right thing, and he

dismisses the matter from his thoughts. It is business accomplished, and that is good. The following pages may perhaps succeed in showing that the thing is not so simple, but of a far more serious nature.

The least reflection is sufficient to convince anyone of this fact:—that *if* Vaccination is—as alleged—a protection against small-pox, either for life, or for a longer or shorter period of years, then such a result cannot conceivably be obtained without the organism being *changed* in a remarkable manner, in one respect or another, by the Vaccinating process. It is inconceivable that it should not be changed from its *natural* state to a different one, whatever the nature of that state may be; and the new state will be permanent for life, or for whatever time the protection lasts. And no man need be either an anatomist or a physiologist to comprehend the fact, that if any kind of very important permanent change in the natural state of the organism is brought about, the circumstance must indeed be regarded as at least a very *hazardous* thing in the question of the physical education of the individual.

The nature of this change in its general features has been very clearly and closely indicated by a distinguished English surgeon, SIR JAMES PAGET, who is also an upholder of

Vaccination ; and we cannot do better than quote his words. He says : “ The progress of the vaccine or variolous infection of the blood shows us that a permanent morbid condition of that fluid is established by the action of these specific poisons on it ; and although this condition may, so far, at least, as it protects the individual from any further attack of the same disease, be regarded as exercising a beneficial influence upon the economy, yet it is not the less to be looked upon as a morbid state. In forming an estimate of the persistent changes produced in the blood by this and similar infectious diseases, we must not lose sight of the influence which the tissues, themselves altered by the inoculation, exercise upon the blood ; they will necessarily react upon it, so as to assist materially in preserving a permanent morbid (though beneficial) condition.” —*Lectures on Inflammation*, 1863.

From this declaration of one who is reputed to know well what he is saying, we find that Vaccination produces a permanent morbid condition of the organism ; the vaccine infection spreading from the membranes and tissues, which are first attacked, to the blood. At the same time, notwithstanding this, such permanent morbid condition is regarded as beneficial ; that is to say, beneficial to this extent, that it is a

protection against an eventual attack of small-pox. Here we have a question of a loss on one side, of a gain on the other, and the point is to weigh the one quantity against the other.

If we enquire more narrowly into the nature and quality of the above morbid state, these appear to consist essentially, as already observed, in a morbid affection of the tissues and organs which lie in or just under the skin, and in which the vaccine poison spreads.

This, however, is not the place to enter further into detail on what SIR JAMES PAGET says upon the subject. At a Meeting held in Germany last year of persons interested in the investigation, the skin of a vaccinated sheep was exhibited, in order to show, by the aid of the microscope, the alterations which had occurred in and through the process of Vaccination. But without following the Meeting to the microscope, it may here suffice to observe, that when the vaccinated goods was priced in the sheep market, it was referred to the rubrick, "offal" or "refuse."¹ Following this up, if the estimate is sufficiently solid to admit of being applied to human vaccinees, then the proximate effect of Vaccination upon them must be, to lower one of the most important organs in the human body,

¹ It appears that the Prussian Government has had abundant reasons, for the past year or two, for *forbidding* the vaccination of sheep.

namely, the skin, to an "offal" or "refuse" value. And then the protective power of the Vaccination against small-pox will depend upon this, that since the invading vaccine poison has done its work, there remains nothing more to do for a subsequent invasion of small-pox poison. Or as Dr. Epps, for 25 years President of the Jennerian Institute in London, and performer of more than 100,000 vaccinations, expresses himself: "Vaccine is a poison which penetrates the organism in such a manner, that it works repressively against small-pox." This presents substantially the same opinion. The protection here designated occupies nearly the same ground as the rule of practice, that where there is nothing to take, Cæsar has lost his rights. It is a case analogous to the self-defence of the Russians against the French invasion in 1812, when they defended themselves by laying their own country waste, and burning their capital.

Thus we are brought back to the question of the profit and loss account in the transaction.

In the 18th Century small-pox was so general in Sweden, that the mortality from the disease in one particular year, 1778, constituted not less than about one-third of the total mortality of the year. But by the average of the 25 years that immediately preceded the introduction of

Vaccination (in other words, prior to 1801), the deaths from small-pox made only 8 *per cent.* of the entire death rate.¹ That is to say, in those pre-vaccination times, in “unprotected” Sweden, 92 *per cent.* of the population died of other diseases, leaving 8 *per cent.* to become victims to small-pox. If, therefore, we take the conditions then existing as our standpoint, the question shapes itself thus. In order to save 8 *per cent.* of the population from dying of small-pox, how far is it rational to reduce the remaining 92 *per cent.*, who, on their own account, *want no protection*, in a market sense and to a certain extent,² to “trash” or “refuse.” Observe, it is here assumed that Vaccination *has* the effect of saving life at all. Again, if we consider the figures of our own period, and reckon from the average death rate of the five years,

¹ The parties interested in the support and maintenance of the Vaccination Laws, have taken every pains to paint the small-pox in the most horrible colours, not only as a detestable form of disease—which *it is*—but also as a disease striking down the people in masses, which it is *not*, and never has been in Sweden, so far as we have any *reliable* accounts. Note also the fact that relatively to the number of those attacked, small-pox is not more fatal than, for example, scarlet fever.

² The Tract says “in a certain sense” or “to a certain extent:” I have Englished it “in a market sense and to a certain extent:” market value having been spoken of previously. Here the phrase is analogical. Suppose a man who would have had a function and a career, to become an invalid for life from Vaccination,—and this event happens,—then however estimable he may be on his couch, he is “refuse” in the market as regards the uses and services of life: and this, in proportion to the organic degradation of which he is the victim. *Translator.*

1872-76 inclusive, when we were visited by a small-pox epidemic of uncommon severity for this epoch, we then find that the mortality from small-pox was only 2 *per cent.* of the total mortality.¹ The question then is, whether these 2 *per cent.* ought to be saved at the expense of diseasing the other 98 *per cent.* And mark this further, that the point in nowise occurs of thus rescuing the 2 *per cent.* from death (I mean from premature death), but only from death *by small-pox.* In other words, granting that it is indeed a human duty to run great personal danger to save the life of a single fellow man, that duty does not here present itself. For it is an incontrovertible conclusion drawn from statistics,² that the *general* mortality in the

¹ Rather more than 25 years ago, the Swedish Statistical Commission,—its Secretary at that time, afterwards Chief of the Statistical Bureau, being one of the first medical men in Sweden, and a believer in Vaccination,—declared that as the Vaccination system was worked in practice, and according to the statistical returns, “The protective power of Vaccination was little or none.” The same result accrues of late from other sources. Thus the question might well be taken *ab ovo*, making the present small-pox mortality our starting point; and the problem then is, assuming the ground of the pro-vaccinators, how so to increase the power of the vaccination and re-vaccination systems, that the two *per cent.* mortality in small-pox may be avoided. If we take the average for twenty or twenty-five years, as things now stand, the per centage of those (believed to be) benefited by Vaccination, would be still less.

² See on this subject my other Works.

[The following may be here specified :—

“*The Vaccination Question.* An Essay towards determining the boundaries within which a Scientific Theory may rightfully claim to have effect given to it by Legislation. Translated from the Swedish by FREDERICA ROWAN, London, 1875.”

average is *in no way* affected by the greater or lesser mortality of small-pox. Even in the year, 1778, when, according to the tables, the small-pox reaped its greatest harvest of human lives, the *general* mortality was by no means unusually high, and indeed was less than in many other years even after the introduction of Vaccination. What happens is, that other diseases take the place of the small-pox when this disappears: a circumstance worthy of our profound attention.¹ Thus the eminent English

“Further Contributions to the Solution of the Vaccination Question.” In Four Parts:—

Part I.—The question considered more narrowly. Vaccination and the average Mortality.

Part II.—Direct Evidence against Vaccination. Examination of Jenner's Observations.

Part III.—Jenner's immediate successors. Succession of their opinions. The theory of punctures. Syphilis in Vaccination.

Part IV.—Did small-pox decrease in Sweden before the introduction of Vaccination? Evidence showing that the decrease of small-pox after that event was not owing to Vaccination.

Conclusion. Stockholm, 1875.

These Four Parts have not been translated into English.

Tables relative to the Vaccination Question:—

A.—A Mortality Table of Small-Pox in Sweden, 1774 to 1878.

B.—General Mortality Table in Sweden, 1774 to 1878.

C.—Population of Sweden in the Decades 1774 to 1878.

D.—Vaccination in Sweden.

These Tables were presented in French to the Congress in Paris, 1880; and were published in London with translations of the letter-press the same year.

“On the Periodicity of Small-Pox, with some remarks on Vaccination,” Stockholm, 1882. REKTOR SILJESTRÖM has written these leaves in English. They form an original contribution on “the rotation of small-pox” as bearing upon the Vaccination Question. *Translator.*

¹ The general diminution of the mortality, for such there has been, seems to be simply dependent on our modern improvements in economical, social and general hygienic respects.

Physiologist, Dr. W. B. CARPENTER, who for the last year or two has stood forward as the champion of Vaccination with conspicuous zeal, if not particularly successful arguments, is compelled to admit that at the same time that the mortality of small-pox—through the influence of Vaccination, as he thinks—has declined, the mortality of measles and scarlet fever especially has increased.

The latest balance of the account then is, that 90 odd *per cent.* of the population, *who absolutely want no protection*, must submit to have their sound *health* more or less sacrificed to Vaccination, in order that the small remaining *per centage* may be able to die of *some other* disease rather than small-pox; for example, of measles, or scarlatina. We will not deny that one kind of death may seem to be less disagreeable than another; but at the best here lies the entire gain. Of the patients who recover from disease, it is true that those who have passed through small-pox may exhibit ugly consequences of scarred faces; although in the most of cases by due medical care, this disaster may, it is alleged, be prevented.¹ They may, indeed, suffer from other troubles worse than

¹ It may be observed, however, that these patients, according to the received view, enjoy complete immunity ever after from the risk of small-pox, and in this way obtain no small recompense as a set-off against their pock-marks.

pock-marks. On the other hand, a too sad experience has taught us in the last few years, that scarlet fever for example does not pass away without most grievous consequences: to say nothing of the fact that the mortality in this disease at any rate is fully as great as in small-pox; if not greater in proportion to the number of those attacked.

But if the account stands so, it will hardly be denied, that the possible gain is far too insignificant, whether we regard its peculiar character, or the relative number of those who will enjoy it, in comparison with the probable loss which has to be carried to the other side of the reckoning. In the meantime, what happens in the most of human affairs happens here—that in practice neither the gain nor the loss is what theory has expected. The benignity of nature seems in fact gradually to build up again what Vaccination pulls down: and the consequence is that on the one hand the protection against small-pox is not what its advocates alleged that it should be;¹ and on the other hand the injury to the human family is not what under other circumstances we should have reason to fear. But when the

¹ According to the most reliable statements to which recourse can be had, there seems no ground for believing that any protection *whatever* exists when the small-pox appears as an *epidemic* visitation.

Vaccinationists, to make the protection permanent, insist upon re-vaccination, that is to say, insist upon keeping the organism continually in the diseased state we have already spoken of, then indeed without a doubt we enter upon a path of extreme danger. And this procedure is the more motiveless because the restorative process of nature to which we have alluded, if such a process exists, must be very various in different individuals, which makes it impossible to decide upon the right time for re-vaccination.¹ Recruits for the army are compelled to undergo re-vaccination: it has been proposed to enforce it on young persons of both sexes before the administration of the Lord's Supper. It is hard to see any reason for either of these compulsions, even from the point of view of the pro-vaccinators.

It were well if this were all. But alas, we have another circumstance of not less serious moment to take into consideration; a circumstance which if it stood quite alone makes it an absolute duty that all persons to whose care the well-being of the rising generation is committed, should severely consider what it is they do when they allow a child to be vaccinated; or indeed, when they condone the Vaccination of an adult; for this stands in the same category.

¹ It cannot be known *when* a former Vaccination is worn out or lived down. *Translator.*

Hitherto we have spoken only of Vaccination pure and simple, and of its possible or probable workings for good, or for evil. But it has come out more and more sharply in consequence of the close attention brought to bear upon the subject in the last few years, that if the account on the good side keeps within the limits credited to it in these pages, such is by no means the case with the sum on the evil side. For it is now proved that the vaccinated patient may catch a personal application of the rule of play in the game of Cambio, that "harlequin drags down the lowest card with him." It is proved beyond all question that by the process of Vaccination, different sorts of disease and dispositions to disease, even if latent in the child from which the vaccine is taken, may be carried over to the child which is vaccinated. To begin with, hereditary venereal disease—syphilis—may be singled out as perhaps the most dangerous of these infections, and as the one the communication of which is the best established by actual facts. We confine ourselves to a few out of a mass of data on this subject, but these few are of speaking significance.

PROFESSOR RICORD, one of the greatest authorities on this class of diseases, was consulted in 1862, at the Hotel Dieu in Paris, respecting what was thought to be an attack of syphilis

imparted by Vaccination. Previously to this he had emphatically denied the possibility of such an occurrence. He now gave it as his opinion that this attack unquestionably deserved the most serious consideration; but counselled prudence in giving a decided judgment; for, said he, "The obvious fact is, that if ever the transmission of disease with vaccine lymph is clearly demonstrated, from that hour *Vaccination is doomed.*" We may readily comprehend that in such a case it is not easy to attain full proof of the fact. But already in the following year MONSIEUR RICORD felt himself empowered to make a further statement before the Academy of Medicine in Paris. He now said, "At first I scouted the idea that syphilis could be transmitted by Vaccination. But new cases occurred which appeared more and more confirmatory, and I accepted the possibility of this mode of transmission, I should say, with reserve, and even with reluctance. Now I no longer hesitate to declare that such transmission is an actual fact." And again he says in 1879, "I suspect that isolated cases of syphilitic infection by Vaccination are much more common here in the country than is generally supposed. The probability of the occurrence of such isolated cases is immensely greater than of an extensive outbreak of vaccine syphilis. And

inasmuch as such general outbreaks have nevertheless happened,¹ I am forced to believe that many private cases of this infection have occurred where their true character has not been discovered, or allowed."

Another distinguished Frenchman, PROFESSOR TROUSSEAU, who as Senior Physician to the Hotel Dieu had, if I recollect aright, first called RICORD's attention to the subject, says in 1877, that "the transmission of syphilis by Vaccination appears to be an undoubted fact." Also that the "number of cases of this kind has been increasing in an extraordinary way of late years, both in France, and in other countries."²

But perhaps the most diligent and exact authority on the subject at the present time is the eminent English Surgeon, Mr. JONATHAN HUTCHINSON, whose judgment in 1877 is to this effect:—"There can be no doubt that the risk of the transmission of syphilis by Vaccination is real and very important. One of the best means by which we may hope to prevent these lamentable occurrences; indeed the chief means of all; consists in diffusing the knowledge that

¹ RICORD here alludes to the circumstance that in some places the occurrence of syphilitic infection from Vaccination has been on such a scale as quite to assume the proportions of an epidemic.

² This is the natural result of course of looking for them where they may be found.

Vaccination-syphilis is possible, widely amongst the profession.”¹

The importance of Mr. JONATHAN HUTCHINSON'S observations is clearly shown by the fact that one of the most respected Physicians in London, the venerable SIR THOMAS WATSON, although favourable to Vaccination, acknowledges that “such facts as” Mr. HUTCHINSON has “demonstrated, constitute the only rational excuse for objecting to Compulsory Vaccination.” And he adds, “I can readily sympathise with, and even applaud, a father who, with this presumed dread or misgiving in his mind, is willing to submit to multiplied judicial penalties rather than expose his child to the risk of an infection so ghastly.”

On these grounds also SIR THOMAS WATSON would have recourse to the expedient of deriving vaccine from the cow or calf, instead of from the human subject. This view of late has been countenanced by many for other reasons also, ever since it has become apparent that the existing theory of Vaccination cannot keep on its feet against the objections to which it is exposed. But even this expedient seems not to be without its peculiar dangers. According to a statement made in a Medical Journal not long since, one experimenter vaccinated a cow which

¹ Always premising that the knowledge so gained leads to the Abolition of Vaccination.

was affected with tubercles "with perfectly pure vaccine," and afterwards from the same cow vaccinated several others, and with the result that they all became tuberculous. Should this experience be confirmed, and should it be applicable to human subjects, as there is too much reason to fear, in that case the proposed issue of deriving vaccine from cow or calf, will amount to falling out of the frying pan into the fire.¹

Besides the above diseases several others have been noticed as consequences of Vaccination, some of which have caused death. According to a Report of MONSIEUR DEPAUL, an eminent Medical Authority, and for many years at the head of the French Vaccination System,—a Report laid before the Academy of Medicine in Paris,—an otherwise highly respected medical practitioner in the country was sued for damages

¹ Documentary evidence to this effect comes from Thomasville, Georgia, United States. PROFESSOR O. D. SCOTT, President of the South Georgia Agricultural College, certifies (April 10, 1882) to disastrous consequences occurring to "from sixty to seventy *per cent.* of the students of the institution." A. P. TAYLOR, M.D., certifies that these calf-lymph vaccinations "have resulted most seriously in the majority of cases." Dr. T. S. HOPKINS avers that the victims "would at any time prefer to face small-pox rather than have any more bovine virus inserted." Such events are only the beginning; the future has still to be reckoned with. For the effects of Vaccination, whether human or bovine, by the common consent of Vaccinators and Anti-vaccinators, are an affair of years. If that postulate—Jenner's postulate—were removed, or denied, Vaccination would never be performed. It is to be observed that when Vaccination-disasters occur in the United States, they may generally be ascribed to calf lymph, the use of which is greatly in vogue there. "Virus-producing Firms" are Institutions in the Country. *Translator.*

last year for having killed a person by re-vaccination. And MONSIEUR DEPAUL warns his Associates of the Academy not to treat the question of the communication of other diseases by Vaccination as if it could be lightly disposed of.¹ That he had good ground for this caution may appear from the following circumstance among others, that a re-vaccination performed on a French Regiment not long ago, infected no less than 58 men with syphilis, which left behind it very grievous results in some of the cases.

It is indeed probable that opinion has altered essentially of late on the present subject. Not many years since it was proclaimed in a Swedish Medical Journal that syphilitic infection by Vaccination was a thing well-nigh unheard of, and that such a case could never present itself provided only that the vaccinator used "pure lymph." Note here the euphemism, lymph, covering vaccine poison. Doubtless indeed the lymph can be pure, in the sense of pure poison. But now comes the rejoinder,—that men like RICORD and HUTCHINSON declare that it is simply impossible to be sure of this

¹ For corroboration, August, 1882, see the proceedings before a Government Commission in the cases at Norwich. Four children killed and thirteen grievously injured by Vaccination. The operator, Dr. GUY, one of the most assiduous vaccinators in the kingdom: twice encouraged in his work by Government bonuses. *Translator.*

desired purity. According to HUTCHINSON, hereditary syphilis may be latent in a child for months, yea, for many years; and, notwithstanding this latency, may infect other children if their vaccine is taken from such a child.¹ Moreover both he and other authorities declare that it may be impossible to discern any difference between the vaccine from a syphilitic child and that taken from a healthy one. The danger we now discuss, that the diseased condition of the child from which the vaccine is taken, may do injury to the child that is vaccinated, although denied in medical publications, has been practically acknowledged. Why otherwise should vaccinators be so anxious, as they evidently appear to be, to select *healthy* children especially to vaccinate from? If they had no fear of the possibility of carrying over diseases, it would not matter if the child vaccinated from were infected with all the diseases in the world.

Such are some few of the facts selected from a great host which has come to the Author's knowledge on this question. It cannot be denied that we have here before us an Education Question of the very highest

¹ It is related among other cases that at a certain place in Germany five or six girls were syphilized by vaccine procured from one of the highest medical authorities in the land.

importance. For if the case against Vaccination stands thus, what have we not to fear as regards physical education from an operation like this, which comprehends under its action *every child that is born*, and extends *from generation to generation*. No serious man can help cherishing a profound dread of the consequences.¹

This apprehension has aroused the people in many countries to great efforts to procure the abolition of Compulsory Vaccination.² At the present time, Bills to effect this object are before both the German and the English Parliaments.³ An International Association has

¹ The great English thinker, HERBERT SPENCER, speaking of the deplorable and increasing ill-health of the rising generation, thus expresses himself:—"We are not certain that the propagation of subdued forms of constitutional disease through the agency of Vaccination is not a part-cause. Sundry facts in pathology suggest the inference that when the system of a vaccinated child is excreting the vaccine virus by means of pustules, it will tend also to excrete through such pustules other morbid matters; especially if these morbid matters are of a kind ordinarily got rid of by the skin, as are some of the worst of them. Hence it is very possible,—probable even,—that a child with a constitutional taint, too slight to shew itself in visible disease, may, through the medium of vitiated vaccine lymph taken from it, convey a like constitutional taint to other children, and these to others."—*Education*, p. 181. 1881.

² Since these pages were written, a Vote of the Swiss People has rejected National Compulsory Vaccination by 4 to 1. Notwithstanding the most vigorous efforts on the part of the Medical Faculty and their friends, who spared neither trouble nor expense, the law was rejected by a majority of 253,968 votes against a minority of 67,820. Nearly 4 to 1 of the people against Compulsory Vaccination. Only one Canton, Neuchatel, had a majority in favour of it. Further: On December 17th, 1882, the Citizens of Basle suppressed Compulsory Vaccination by a majority of 3539 against 716. And on the 26th, Compulsory Vaccination and Re-Vaccination were abolished by the Federal Council throughout the Federal Army of Switzerland. *Translator.*

³ The French Chamber last year rejected a proposal made by a Physician to pass a severe Law of Compulsory Vaccination and Re-Vaccination.

been formed to work in the same direction.¹ So far as the Author is able to measure the situation, the opposition of State-Medicine, and the obstinacy of public opinion, may constitute strong barriers against immediate success. But considering the daily advance of interest in the subject, and with it the ever-increasing knowledge of the true state of the case, there can be no doubt of the ultimate issue. The Author for his part believes that the facts which already lie open before us, justify him in propounding, for the earnest consideration of all and sundry persons, the following questions; with which he now concludes this short Essay.

Can any *conscientious* Scientific Man, after what we now *know*, *defend* Vaccination?

Can any *conscientious* Medical Man *advise* Vaccination?

Can any *conscientious* Father and Mother, of their own free choice, *allow* their children to be Vaccinated?

Can any *conscientious* Government *impose* Vaccination?

¹ This body held its First Meeting in Paris, in 1880; and a Second Meeting in Cologne in 1881; the Third Meeting, appointed to take place in Berlin, has been postponed, because it is announced that the German Government, after summoning full Statistical and other Reports, is preparing itself to deal with the Vaccination Question.

On the Periodicity of Small-Pox, with some Remarks on Vaccina- tion.

If we go as far back as small-pox statistics are to be had in Sweden, we have to record the following epidemics:—

<i>No. of epidemic.</i>		<i>Year of epidemic.</i>		<i>Interval between two epidemics.</i>
1	...	1752	...	—
2	...	1757	...	5 years.
3	...	1763	...	6
4	...	1768—1769	...	$5\frac{1}{2}$ } 5
5	...	1773	...	$4\frac{1}{2}$ }
6	...	1778	...	5
7	...	1784	...	6
8	...	1789	...	5
9	...	1795	...	6
10	...	1800	...	5
11	...	1807—1809	...	8
12	...	1816	...	8
13	...	1825	...	9

No. of epidemic.	Year of epidemic.	Interval between two epidemics.
14	... 1833—1834	... $8\frac{1}{2}$
15	... 1838—1839	... 5
16	... 1851	... $12\frac{1}{2}$
17	... 1858—1859	... $7\frac{1}{2}$
18	... 1865—1869	... $8\frac{1}{2}$
19	... 1874	... 7

During the period from 1752 to 1800, generally, a more or less considerable *increase* of the mortality preceded, as likewise a successive *decrease* followed, the year in which the mortality attained its maximum.

EXAMPLE.

Year.	Deaths from small-pox.
1798	1,357
1799	3,756
1800	12,032
1801	6,057
1802	1,533

In such cases the year of maximum has been put down as *the* year of the epidemic.

During the subsequent period most frequently the mortality at its maximum did not much change for two or more successive years, and in such cases these several years have been inserted in the table, while the *mean* of them has been considered as the year of the epidemic.

EXAMPLE.

<i>Year.</i>				<i>Deaths from small-pox.</i>
1863	...	...	...	307
1864	...	...	...	741
1865	...	...	...	1,336
1866	...	...	...	1,217
1867	...	...	...	1,061
1868	...	...	...	1,429
1869	...	...	...	1,474
1870	...	...	...	764
1871	...	...	...	329

Here 1867, as the mean of the five maximum years, has been reckoned as the year of the epidemic.

This diversity in the visitation of the small-pox epidemics in the statistical tables, may depend on peculiarities of the small-pox itself, or on its diverse geographical distribution within the realm; or on both causes.

It is to be observed as to Nos. 1 to 5 in the first table, that at that time small-pox and measles were classed together in the statistical tables; but surely this cannot exercise any influence on the determination of the year of maximum. Further, epidemic No. 12, as to number of deaths, was comparatively insignificant, but still quite perceptible at least as a tendency. And finally, supposing the same interval as before, the next epidemic

ought to occur in 1883 or 1884; and in fact already local outbreaks seem to announce its arrival as near at hand.

From the above figures it results, that besides the slow movement of the small-pox disease,—which shows itself by a general decrease of small-pox mortality from about the middle of the 18th century till about the second decade of the 19th, and by a general increase from thence till the present day,—there has been a constant undulatory movement of such a kind, that epidemics (of more or less considerable absolute intensity) have followed each other with astonishing regularity every five or six years during the period from 1752 to 1800, and about every eight years since the latter epoch.¹ This change in the periodicity of the disease, which coincides with the general movement approaching its minimum, may be ascribed to one cause or another, and I shall not venture upon any explication of this curious fact. However, as the epoch in question was also the epoch of the introduction of Vaccination into Sweden, the two occurrences may be thought to be connected as cause and effect. But I hardly think there

¹ Nos. 15 and 16 form an exception, but the *mean* of both still gives $8\frac{3}{4}$ years. The cause of this irregularity may be guessed at, but it is a question which requires further investigation.

is sufficient foundation for such a conclusion, and this, for two reasons. Firstly, because of the small spread of Vaccination during the early part of the century. Secondly, because in Finland—which country at the time, and until 1809, belonged to the Swedish crown, and Vaccination was not less practised in Finland than in the mother country—three very severe small-pox epidemics prevailed, namely, in 1803, 1808, and 1814, and the intervals between them were no longer than those which had preceded; namely, about five years.

Of course no one can say what effect, or whether any effect, towards lengthening or shortening the intervals of small-pox epidemics, ought to result from the introduction into the natural order of things of such an agent as Vaccination.

With regard now to this periodicity of small-pox, I allow myself to make the following remarks.

1. It is evident how fallacious every conclusion as to a presumed influence of Vaccination on small-pox mortalities must be, unless due attention be paid to the periodicity of short duration here in question, as well as to the slower movement of decrease and increase above mentioned.

2. I have tried to show that during the slow (secular) decrease and increase, the

small-pox seems to have exercised no particular influence on the general mortality. The like may be observed in regard to the periodicity of shorter duration. For although a severe epidemic, or two contemporaneous epidemics, may cause the general mortality to swell for a single year, yet it commonly happens that epidemic diseases, all being in some sort periodical, follow each other in a kind of rotation; so that one leaves the field only to give place to another; while the effect upon the general mortality remains about the same, and thus that mortality seems to be as it were independent of any particular disease.

This consideration naturally leads to a comparison of what may be called the *medical* mode with the *statistical* mode of viewing the general mortality. Of course according to both the said mortality is equal to the sum of the mortalities of all the different diseases; including the comparatively small number of deaths by old age and accidents. But in the medical view the whole weight is laid upon the *terms* of which the sum is made up; while the statistician principally looks to the *sum total*, this being taken as the *mean* of a greater or smaller number of years. According to the medical idea, if any term can be removed, that is to say, if any particu-

lar disease can be abolished (as for instance small-pox by vaccination), this necessarily leads to a lowering of the *general* death-rate. Whereas, from the statistical point of view, the sum total or the general mortality is dependent only on the general conditions of man in respect to life and death, viz., climatic, social, and moral conditions, economical circumstances, etc. Then it matters little whether any particular disease disappears, because, in such case, the other terms, the other particular diseases, some of them or all, will change correspondently; or perhaps some new form of disease will make its appearance, and so keep up the total of the mortality to its true height. And consequently any effort similar to Vaccination, even if successful in its way, must prove abortive as regards the general mortality.

Further statistics in regard to the mortality from various diseases will without doubt satisfactorily decide the correctness of the one or the other point of view; but certainly, so far as it goes, the rotation of small-pox detailed above, as compared with that of some other diseases, seems to give no little support to the statistical method of reasoning.

P. A. SILJESTRÖM.

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